

Title (en)

Multi-layer, heat-shrinking film that acts as an oxygen and water vapour barrier and exhibits low curling

Title (de)

Mehrschichtiger Schrumpffilm mit Sauerstoff- und Wasserdampfbarriere und geringer Rollneigung

Title (fr)

Film multi-couche thermo-retractable avec barrière à l'oxygène et à la vapeur d'eau et montrant une faible tendance au gondolage

Publication

**EP 1410902 A1 20040421 (EN)**

Application

**EP 03009769 A 20030506**

Priority

IT MI20022159 A 20021011

Abstract (en)

Heat-shrinking food packaging film with lower-melting material in an outer layer has (a) at least two layers (L1), one on the outside of the film and one inside, comprising polymers with a Youngs modulus (YM) substantially higher than that of the polymers in the other layers, and (b) layer(s) with a lower YM separating one layer L1 from the other layers. Heat-shrinking film for food packaging, with overlapping layers of different uncrosslinked thermoplastics and with lower-melting material in an outer layer, in which (a) at least two layers (L1) comprise polymers with a Youngs modulus (YM) substantially higher than that of the polymers in the other layers, (b) one the layers L1 is separated from the other layers by layer(s) with a lower YM and (c) one of the layers L1 is on the outside of the film and the other is inside the film.

IPC 1-7

**B32B 27/34**

IPC 8 full level

**B32B 27/34** (2006.01)

CPC (source: EP)

**B32B 27/34** (2013.01)

Citation (search report)

- [XA] US 5492741 A 19960220 - AKAO MUTSUO [JP], et al
- [A] EP 0974452 A2 20000126 - KUREHA CHEMICAL IND CO LTD [JP]
- [A] PATENT ABSTRACTS OF JAPAN vol. 011, no. 125 (M - 582) 18 April 1987 (1987-04-18)

Cited by

EP1905577A1; EP1905575A1; EP1905576A1; EP2100727A1; US7687123B2; EP2100726A1; US7744806B2; EP2100729A1; US11014342B2; US9289966B2; EP2233285A1; WO2008037446A1; WO2008037441A1; WO2008037447A1; EP2100728A1; US10843443B2; US11020944B2; EP2117839B1; US8115326B2; US8435605B2; EP2117839A1

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